

Langmuir

Dear Matt,
You got me into this
for better or worse,
Best to Jean.
Rus

Robert A Weinberg, PhD,
Member, Whitehead Institute
Professor of Biology, M.I.T.
Chairman of the Core Group
Expert Working Group on Biological and
Toxin Weapons Verification
Nine Cambridge Center,
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April 21 1990

In re: FAS review of BWC

Dear Professor Weinberg,

I write in response to your letter of March 23, 1990 and your gentle nudging of April 17th. As a retired classical infectious disease epidemiologist who has had essentially no contact with the field of BW for over 20 years, I shall try to be responsive and constructive.

Let me list the documents I have reviewed because there may be serious omissions that will explain some of the hiatuses in my knowledge:

- 1) Biological Weapons Convention, March 26, 1975.
(This is the first time I have had the opportunity to see this in its entirety.)
- 2) Proposals for the Third Review Conference of BWC, Expert Group on BW Verification, March 18, 1990, pp 1-16 with three appendices, A,B,C.
- 3) Expert Working Group on BW and Toxin Weapons Verification, 2 pages. No date but tentative schedule "commencing 10 October 1989."
- 4) Historical note on the history of verification for the BWC (Article V) 4 pages, no date.
- 5) Conference on Disarmament, Chemical Weapons Convention, France, The Scientific Advisory Council, 17 April 1989, 4 pages.
- 6) Pathogenic Microorganisms Produced or Studied as Potential BW Agents. table 2, no date, with note, "Draft for Wright --? , prepared by Stuart Mecham plat 3, pp 18-20.

I feel constrained to make comments on each of these documents.

- 1) The BW Convention is commendably brief, moderately literate, (Thomas Jefferson did not draft it), and has stood well

over a 15 years period in that the present core group lets 9 of 15 articles stand without proposed revision.

2) The Proposals for the 3rd Review (3/18/90) are lucid and improve each time I read and reread them. They are comprehensive. They specify the two procedures for "resolving compliance problems," informal cooperation among the States Parties and formal complaints through the UN. They clearly distinguish between essentially voluntary "confidence building measures" and legally binding verification measures. Obviously both should be explored to the limits of possibility. The objective should be moving toward the establishment of a "structured international inspectorate." This will not be easy to accomplish but should be planned in close accord with verification structures for the CW treaty.

The Proposals then go on to discuss specific articles of the BWC that I will comment on:

Article 1

The three proposals for this article deal with the still unresolved problem of definitions of BW and CW. The term "bacteriological" is a misnomer and must have a basis in the original negotiations of the convention. Microbiological would be more appropriate or simply biological would do. Almost everywhere we see the terms, bacteriological, biological, microbiological, chemical, biochemical, etc, used rather indiscriminately. Surely the old controversy can be avoided on whether botulinus toxin A is a chemical poison belonging to the jurisdiction of Edgewood Arsenal or a biological product belonging to Fort Detrick. That is as futile as arguing whether urea or CO2 are organic or inorganic molecules. Perhaps this issue is one to resolve more broadly when the CW and BW conventions are being considered jointly.

Proposal A. I warmly concur. The text might be made more intelligible for some less well informed readers by specifying prototype examples such as botulinus A toxin, and some other "specific biochemical produced biologically." (I don't think of another one off hand).

Proposal B. I also agree. Antiplant BW gets too little attention all round. But I am unaware of any plant pathogen that has an accepted BW potential that is also pathogenic for man. This is far from my field of knowledge, but I sense that much of this paragraph is highly speculative. Such imaginative thinking is sound in its place but I feel it should be kept to a minimum in this report. There is so much scientifically proved information about BW which is not yet widely appreciated speculative ideas should be introduced in a separate paragraph.

Proposal C. I concur, but in line with the comments above I would recommend toning down the unmodified expletives in the commentary, "greatest concern", "major source", and "greatest danger." Some of us traditionalists believe the greatest danger of BW is the creation of one micron sized aerosols of any of a dozen known pathogens over crowded populations. There is a solid scientific base for such warfare. Also the release of infected insects over such populations is an established method which requires no speculation.

Article V.

This article is clearly the "heart and soul" of the mission of the expert group. The text runs from page 5 to 12, but it is confusing to me with regard to the administrative procedures that would have to be followed. Apparently the mission of the expert group is to recommend to the Third Review Conference the formal development of a protocol that would require a substantial permanent secretariat and a large number of duties of the states parties. The many proposals all seem eminently sound to me if extremely ambitious. As an aging federal bureaucrat I need to understand how all these proposals, general, declarations, continuing bodies, and inspections are to be set up and carried out. There must be precedents in the disarmament field with which I am poorly acquainted. How far is it constructive to involve the UN and its associated organization such as WHO? I need to talk to others before commenting on specific proposals.

Article VI

Amen, these proposals thrust the verification and compliance right into the structure of the United Nations. I don't see anywhere else it can go, even though I foresee almost insurmountable problems.

Article X

I warmly concur with all proposals. Classification of BW information had a most baneful effect on the attitude and understanding about BW of most medical scientists in the era 1940 to the present. A policy of full declassification of the wealth of scientific knowledge acquired in the USA, Canadian and UK BW programs should be recommended. A small step in this direction was achieved by the NAS-NRC sponsored Conference on Airborne Infection, December 7-10, 1960. (Bact Rev Vol 25, No 3, Sept 1961, pp 173-382), but this was no where near enough and much has transpired since then.

Appendix A

I would like to review some of the details in this document. For example I don't find Brucella species listed, etc. Basically

it is excellent.

Appendix B

No comment. I believe in Confidence building!

Appendix C

Verification protocols would be far more intelligible to me if the basic administrative procedures necessary could be outlined along with some rough estimate of the size and structure of the permanent body that would have to be established to carry on.

3 The Expert Working Group

I read over with a certain wry interest the names of the members of the inner core and review groups. While I am now a member of the review group I find no one on either group who could reasonable be classified as an expert in clinical infectious diseases. Alexis Shelokov comes closest and he, indeed, brings a peculiarly valuable expertise to the group. I believe the Expert Working Group could benefit by more representation from physicians who know the process of infection in the human body and from epidemiologists who have experience in infectious disease and epidemic control. After all BW, if successful, will cause epidemics.

4 The Historical Note

This is most useful in giving a novice to recent events some background. The reaction to the Sverdlovsk Incident needs updating with an account of the visit to the USA of three Soviet officials who were knowledgeable of that epidemic. Matthew Meselson has summarized this visit in the FAS Public interest Report for September 1988. I was present and actively participated with this group for a full five day period. They presented wholly credible evidence that the epidemic was food borne anthrax related to an epizootic in cattle and sheep which were slaughtered and sold on the black market. It is perhaps the only such epidemic on record where autopsies were performed. A fully documented report of this epidemic would not only allay any residual thoughts of it having been a laboratory accident in an illegal BW factory, but also add considerably to our knowledge of intestinal anthrax as a clinical, pathological and epidemiological syndrome. The working group might be able to encourage the fulfillment of his idea.

5 The Scientific Advisory Council

France proposed in March 1987 that a scientific advisory council be established "as an advisory body to the Conference of

states Parties." I hasten to note that there is no mention of medical sciences other than "pharmacology" and "microbiological and enzyme engineering." I believe physicians and epidemiologists have something to offer here. I would be happy to list appropriate candidates on request.

6 Potential BW Agents

The list of potential BW agents "prepared by Stuart Mecham" confuses me. I can make no order out of it. It starts with "influenza psittacosis" obviously a typographic error, but goes on to such vividly potential BW agents as yellow fever and then lists eleven more arthropod borne infections with widely varying BW potentialities. It ends its virus listing with small pox that could be an effective agent under extremely fanciful circumstances. The bacteria listing starts with cholera that I am unaware has ever been seriously considered as a potential agent. Enough said. I do hope the Expert Working Group will be more discriminating in its final report than to include this listing in its supporting documents.

I will be happy to attend any sessions of one or more members of the review group or other sessions working toward this goal. I would welcome correspondence with any one concerned with the same problems. I appreciate being given the opportunity to express my views.

Sincerely yours,

Alexander D. Langmuir, MD, MPH.

cc Matthew Meselson